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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/581,241

DATE: 11/13/2001 TIME: 13:41:33

3 <110> APPLICANT: HATTORI, NORIAKI	
4 MURAKAMI, SEIJI 6 <120> TITLE OF INVENTION: LUCIFERASE AND A METHOD FOR DETECTING INTRA	ACELLULAR ATP
THE CAME	
0 /130\ FILE REFERENCE: 193582US-3524-7120-0 FC1	
10 <140> CURRENT APPLICATION NUMBER: U9/301241	
11 /141 CURRENT FILING DATE: 2000-00-20	
A A SOL DRIOD ADDITION NIMBER: JP9//301044	
14 <151> PRIOR FILING DATE: 199/-12-26	
16 <160> NUMBER OF SEQ ID NOS: 6	1 L D
18 <170> SOFTWARE: Patentin version 3.1	
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22 <212> TYPE: DNA	
22 <212> TIPE: DNA 23 <213> ORGANISM: ARTIFICIAL SEQUENCE	
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49 <220> FEATURE:	
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	0.5
30 1 and grantet get gga gga caa ttg cgc aag tat	96
60 ttt tac cct att gaa gag gga tee gee gga gar ger 61 Phe Tyr Pro Ile Glu Glu Gly Ser Ala Gly Ala Gln Leu Arg Lys Tyr	
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CE Not Aco Arg Tyr Ala Lys Leu Gly Ala Ile Mid Ind Ind	
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60 Thr Gly Val Asp Tyr Thr Tyr Ald Glu Tyr Eed Old 270 - 1	
70 50 55 -60	
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72 cta gga gag gct tta aag aat tat ggt ttg gtt gtt gat gga aga a	
73 Leu Gly Glu Ala Leu Lys Non 17	000
/4 65	288
76 gcg tta tgc agt gaa aac tgt gaa gaa tee ees are 77 Ala Leu Cys Ser Glu Asn Cys Glu Glu Phe Phe Ile Pro Val Leu Ala	
77 Ala Leu Cys Ser Glu Ash Cys Glu	
78 os act act gag att tac act	336
80 ggt tta ttt ata ggt gtc ggt gtg gct ccd dos are 33 81 Gly Leu Phe Ile Gly Val Gly Val Ala Pro Thr Asn Glu Ile Tyr Thr	
81 Gly Leu Phe Ile Gly Val Gly Val Rid 110 110	
82 100 105 84 cta cgt gaa ttg gtt cac agt tta ggc atc tct aag cca aca att gta 84 cta cgt gaa ttg gtt cac agt tta ggc atc tct aag cca aca att gta	384
84 cta cgt gaa ttg gtt cac agt tta ggc atc tct duy our line ag training grant	
85 Leu Arg Glu Leu Val His Ser Leu Gly 116 551 27	
86 115 120 123 and gta caa aag acg	432
86 115 120 88 ttt agt tct aaa aaa gga tta gat aaa gtt ata act gta caa aaa acg 88 ttt agt tct aaa aaa gga tta gat aaa gtt ata act gta caa aaa acg	
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or wal the Ala Ile Lvs Thr Ile val Ile Lea Map 300 140	
	528
	320
96 aga ggt tat caa tcc atg gac aac ctc dtc Lys Lys Asn Thr Pro Gln 97 Arg Gly Tyr Gln Ser Met Asp Asn Phe Ile Lys Lys Asn Thr Pro Gln 175	
	576
90 and gta gas gtt aac cgc add gad	370
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101 Gly Phe Lys Gly Sel Sel 115 -1 190	604
102 and the tag agt the acc agt till coa aga	624
104 caa gtt gct ctt ata atg aac tct tcg ggt tcd doo ggt 105 Gln Val Ala Leu Ile Met Asn Ser Ser Gly Ser Thr Gly Leu Pro Lys 200 205	
105 Gln Val Ala Leu Tie Met Ash Sel	
106 193 and the get aga tit tot cac get	672
108 ggt gtg caa ctt act cat gaa act tag yel The Arg Phe Ser His Ala	
mb with Clu Ach Lell Val IIII and Inc Som	
109 Gly Val Gln Leu Thr His Gid Ash Bed Val 1220	
109 Gly Val Gln Leu Thr His Glu Ash Bed Val 112 220 110 210 215 220	720
109 Gly Val Gln Leu Thr His Glu Ash Bed Val 112 220 110 210 215 220	720
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109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Ash Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Ash Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly	
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109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 250 255 118 245	768
109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu	768
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109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 118 250 255 118 250 255 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 270	768
109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 118 250 255 118 250 255 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 270	768 816
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109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 125 250 126 act cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 120 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp	768 816 864
109 Gly Val Gln Leu Thr His Glu Ash Bed Val 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Ash Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Ash Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 118 250 255 118 20 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 129 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp	768 816 864 912
109 Gly Val Gln Leu Thr His Glu Ash Leu Var 1220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 118 245 245 250 255 118 245 245 250 255 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 129 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp 130 290 300	768 816 864
109 Gly Val Gln Leu Thr His Glu Ash Leu Var 1220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 118 245 245 250 255 118 245 245 250 255 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 129 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp 130 290 300	768 816 864 912
109 Gly Val Gln Leu Thr His Glu Ash hed 7 220 110 210 215 225 120 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 124 255 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 129 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp 130 290 132 aaa tat gat tta tca aat tta gtt gaa att gca tct ggc gga gca cct 133 Lys Tyr Asp Leu Ser Asn Leu Val Glu Ile Ala Ser Gly Gly Ala Pro	768 816 864 912 960
109 Gly Val Gln Leu Thr His Glu Ash heu Var 220 110 210 215 220 112 aga gat cca att tat gga aac caa gtt tca cca ggc acg gct att tta 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 113 Arg Asp Pro Ile Tyr Gly Asn Gln Val Ser Pro Gly Thr Ala Ile Leu 114 225 230 235 240 116 act gta gta cca ttc cat cat ggt ttt ggt atg ttt act act tta ggc 117 Thr Val Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly 117 Thr Val Val Pro Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 120 tat cta act tgt ggt ttt cgt att gtc atg tta acg aaa ttt gac gaa 121 Tyr Leu Thr Cys Gly Phe Arg Ile Val Met Leu Thr Lys Phe Asp Glu 122 260 265 270 124 gag act ttt tta aaa aca ctg caa gat tac aaa tgt tca agc gtt att 125 Glu Thr Phe Leu Lys Thr Leu Gln Asp Tyr Lys Cys Ser Ser Val Ile 126 275 280 285 128 ctt gta ccg act ttg ttt gca att ctt aat aga agt gaa tta ctc gat 129 Leu Val Pro Thr Leu Phe Ala Ile Leu Asn Arg Ser Glu Leu Leu Asp 130 290 300 132 aaa tat gat tta tca aat tta gtt gaa att gca tct ggc gga gca cct 132 Aug Tyr Asp Leu Ser Asn Leu Val Glu Ile Ala Ser Gly Gly Ala Pro	768 816 864 912

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1Ω	5 Ar	a Le	u Ar	a Gl	y Gl	y V a	l Ar	g Ph	ie Va	l As	p GI	u va	T PI	о па	2 01	.у пс	u	
18	6	9	51	5	-	-		52	20				52	:5			2	1632
10	0 20	+ 00			t ga	c qq	t aa	a go	a at	t ag	a ga	ıa at	a ct	g aa	g ac	ia CC	a	1032
10	o ac	r C1	37 T.S	's T1	e As	p gí	y Ly	s Al	La Il	e Ar	g Gl	u Il	e Le	eu Ly	'S L	/S PI	U	
		11 G1	ου Συπλ	3 11		r	53	5				54	10					1644
19		53		~ at	ď													1044
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			La L)	s Me	. L.													
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205 208	1 Phe	Tvr	Pro	Ile	5 Glu	Glu	Gly	Ser	Ala	10 Gly	Ala	Gln	Leu	Arg	Lys	Tyr
209	Mot	Agn	Ara	20 Tvr	Ala	Lys	Leu	Gly	25 Ala	Ile	Ala	Phe	Thr	Asn	Ala	Leu
213	Me C	A3P	35	A an	marr	Thr	Tvr	40 Ala	Glu	Tyr	Leu	Glu	45 Lys	Ser	Cys	Cys
216	Thr	61y	Val	ASP	1 7 1	1111	55			-	_	60	_	a1	7 ~~	Tlo
220	Leu	Gly	Glu	Ala	Leu	Lys 70	Asn	Tyr	Gly	Leu	Val 75	Val	Asp	Gly	AIG	80
221 224	65 Ala	Leu	Cys	Ser	Glu	Asn	Cys	Glu	Glu	Phe	Phe	Ile	Pro	Val	Leu 95	Ala
														Ile 110		
232	Leu	Arq	Glu	Leu	Val	His	Ser	Leu	Gly	Ile	Ser	Lys	Pro	Thr	He	vai
233		,	115					120	T	17.7	т10	Thr	125 Val	Gln	Lvs	Thr
236	Phe	Ser	Ser	Lys	Lys	Gly	Leu 135	Asp	гаг	vai	. IIC	140	,	Gln	-	
237		130		т1 о	Tvc	Thr	TJO	Val	Ile	Leu	Asp	ser	Lys	Val	Asp	Tyr
241	145	Glv	Tvr	Gln	Ser	Met	Asp	Asn	Phe	Ile	Lys	Lys	Asn	Thr	Pro	GIn
244	мгу	GIY	111	0211	165		_			170)	_	_		1/5	Clu
243	Glv	Phe	. Lvs	Gly	Ser	Ser	Phe	Lys	Thr	· Val	L Glu	ı Val	. Asn	Arg	гаг	Glu
249	O ± 1	2	1	180)				185		_	ml	- 01-	190	Dro	T.VS
252	Glr	val	L Ala	Leu	ılle	Met	Asn	Ser	Ser	: GI	y Sei	C TIII	OLY OLF	, nea		Lys
253			195	5				200) 	. 170	ነ ሞክ	r Arc	z Phe	, Ser	His	Ala
256	Gly	y Val	l Glr	1 Leu	Thr	His	GIU	ASI	тес	ı va.	T 1111	220)			Ala
257	,	210)	1	m		215	o Clr	n Val	Se	r Pro	o Gly	Thi	c Ala	ılle	Leu 240
260	Arg	J Ası	p Pro) ITE	э туг	230°	, ASI	1 011			23	5				240
261	225	77-	1 170	l Dro	n Dhe	LJC Hie	, His	s Gly	y Phe	e G1	у ме	t Phe	e Thi	r Thi	Leu	Gly
264	I I n	r va.	I Va.	LPIC	245	5	,		•	25	0				255	-1
265)) П'тт	r T.e	u Th	r Cvs	s Gly	, Phe	ar Ar	g I1	e Vai	l Me	t Le	u Th	r Lys	s Phe	ASE	Glu
260) <u>1</u> .	L LIC	u 111	260	0				26	5		_		2/() r Vai	L Tle
272	2 Gl	u Th	r Ph	e Le	u Ly	s Th	r Lei	u Gl	n As	р Ту	r Ly	s Cy	s se. 28	1 3e. 5	L Va.	l Ile
276	6 Le	u Va	1 Pr	o Th	r Le	u Phe	e Ala	a II	е ге	u AS	II AI	30	0		-	ı Asp
27	7	29	0	_	a -	1\a	29	o u Va	1 G1	11 T]	e Al	a Se	r Gl	y G1	y A1	a Pro 320
280	0 Ly	s Ty	r As	p Le	u se	r AS:	пте	u va	1 01	u	31	5		-		320
28	1 30	5	T.	a C1	,, т1	ىد 11- م	v Gl	u Al	a Va	1 Al	a Ar	g Ar	g Ph	e As	n Le	u Pro 5
28	4 ье	u se	ат гу	S GI	32	5	, 01	-		33	30			_	33	5
∠ გ ე გ	ე გ <u>ი</u> 1	v Va	l Ar	a Gl	n Gl	- у Ту	r Gl	y Le	u Th	r Gl	u Th	ir Th	r Se	r Al	a Il	e Ile
28	0 91	. y		34	0	-			34	5				35	U G Va	ı Val
29	2 Il	e Th	ır Pr	o Gl	u Gl	y As	p As	р Ly	s Pr	o G]	Ly Al	La Se	er Gi 36	.у ьу :5	o va	l Val
29	6 Pr	o Le	eu Ph	ne Ly	s Al	a Ly	s Va	ıl Il	e As	ъ ге	eu As	sp 11 38	30 11 11 3	y Ly	~	r Leu
29	7	37	70		_	01	37	' D	1 Ct	79 V:	al T.	vs Gl	Ly Pi	со Ме	t Le	u Met
30	0 G1	Ly Pi	ro As	sn Ar	g Ar	g G1	y GI	_u vo	11 C)	J 70	~ -	, - 0-	4			

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205 400												
301 385 390 390 393 394 Lys Gly Tyr Val Asp Asn Pro Glu Ala Thr Arg Glu Ile Ile Asp Glu 415												
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313 435 440 440 Top Ion Cln His Pro												
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317 450 455 Apr. No. 1 N												
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356 atg gaa aac atg gag aac gat gad aat att geg cas 335 357 Met Glu Asn Met Glu Asn Asp Glu Asn Ile Val Tyr Gly Pro Glu Pro 10 15												
357 Met Glu Asn Met Glu Asn Asp Glu Asn 110 115												
358 1 5 arms tot got gga gga gga caa ttg cgc aag tat	96											
360 ttt tac cct att gaa gag gga tet get gga god obb 19 361 Phe Tyr Pro Ile Glu Glu Gly Ser Ala Gly Ala Gln Leu Arg Lys Tyr 361 30												
361 Phe Tyr Pro Ile Glu Glu Gly Sel Ala Gly 30												
362 20 and att get titt act acc gea ett	144											
364 atg gat cga tat gca aaa ctt gga gca att goo oo												
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	192											
366 35 368 acc ggt gtc gat tat acg tac gcc gaa tac tta gaa aaa tca tgc tgt 368 acc ggt gtc gat tat acg tac gcc gaa tac tta gaa aaa tca tgc tgt												
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370 50 55 agt ttg gtt gtt gat gga aga att	240											
370 50 53 372 cta gga gag gct tta aag aat tat ggt ttg gtt gtt gat gga aga a												
373 Leu Gly Glu Ala Leu Lys Ash Tyl Gly Leu 75												
374 65	288											
374 65 70 374 65 376 gcg tta tgc agt gaa aac tgt gaa gaa ttc ttt att cct gta tta gcc 376 gcg tta tgc agt gaa aac tgt gaa gaa ttc ttt att cct gta tta gcc												
377 Ala Leu Cys Ser Glu Ash Cys Glu Glu The												
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